

208020" 268900T

1 What is claimed is:

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

1. A process for producing low pour point hydrocarbon products having an initial boiling point above about 150 degrees C from a Fischer-Tropsch plant which comprises:
  - (a) recovering a feedstock comprising C<sub>5</sub> plus syncrude from a Fischer-Tropsch plant;
  - (b) dewaxing the C<sub>5</sub> plus syncrude feedstock in a catalytic dewaxing zone by contacting the C<sub>5</sub> plus syncrude feedstock with a dewaxing catalyst under dewaxing conditions, whereby a C<sub>5</sub> plus intermediate is produced having a lowered pour point relative to the C<sub>5</sub> plus syncrude feedstock;
  - (c) hydrofinishing the C<sub>5</sub> plus intermediate in a hydrofinishing zone under hydrofinishing conditions, whereby a UV stabilized C<sub>5</sub> plus product is produced; and
  - (d) separately collecting from the UV stabilized C<sub>5</sub> plus product a low pour point hydrocarbon product having an initial boiling point above about 150 degrees C.
2. The process of claim 1 wherein a low pour point diesel and a lubricating base oil are separately recovered from the UV stabilized C<sub>5</sub> plus product.
3. The process of claim 1 wherein the dewaxing catalyst of step (b) contains at least one active metal having hydrogenation activity.
4. The process of claim 3 wherein the dewaxing catalyst comprises an intermediate pore size SAPO.
5. The process of claim 4 wherein the dewaxing catalyst comprises at least one SAPO selected from the group consisting of SAPO-11, SAPO-31, and SAPO-41.

- 1 6. The process of claim 5 wherein the dewaxing catalyst comprises  
2 SAPO-11.  
3
- 4 7. The process of claim 3 wherein the dewaxing catalyst comprises an  
5 intermediate pore size zeolite.  
6
- 7 8. The process of claim 7 wherein the dewaxing catalyst comprises at  
8 least one zeolite selected from the group consisting of SSZ-32, ZSM-  
9 22, ZSM-23, ZSM-35, and ZSM-48.  
10
- 11 9. The process of claim 8 wherein an ultra high VI, low pour point  
12 lubricating base oil is collected in step (d).  
13
- 14 10. The process of claim 3 wherein at least one of the active metals is  
15 selected from the group consisting of platinum and palladium.  
16
- 17 11. The process of claim 10 wherein at least one of the active metals is  
18 platinum.  
19
- 20 12. The process of claim 3 wherein the dewaxing catalyst is a non-zeolitic  
21 molecular sieve and the active metal is added by non-aqueous  
22 addition.  
23
- 24 13. The process of claim 1 wherein the hydrofinishing conditions of step (c)  
25 comprise a pressure of between about 200 psig to about 3000 psig.  
26
- 27 14. The process of claim 13 wherein the hydrofinishing conditions  
28 comprise a pressure of between about 500 psig and about 2000 psig.  
29
- 30 15. A process for producing low pour point syn crude products having an  
31 initial boiling point above about 120 degrees C from a Fischer-Tropsch  
32 plant which comprises:  
33

- 1 (a) recovering a feedstock comprising C<sub>5</sub> plus syncrude from a  
2 Fischer-Tropsch plant;
- 3 (b) dewaxing the C<sub>5</sub> plus hydrocarbon feedstock in a  
4 hydroisomerization zone by contacting the C<sub>5</sub> plus syncrude  
5 feedstock with a hydroisomerization catalyst under  
6 hydroisomerization conditions, whereby an isomerized C<sub>5</sub> plus  
7 intermediate is produced having a lowered pour point relative to  
8 the C<sub>5</sub> plus syncrude feedstock;
- 9 (c) hydrofinishing the isomerized C<sub>5</sub> plus intermediate in a  
10 hydrofinishing zone under hydrofinishing conditions, whereby a  
11 UV stabilized C<sub>5</sub> plus product is produced; and
- 12 (d) separately collecting from the UV stabilized C<sub>5</sub> plus product a  
13 low pour point diesel product and a lubricating base oil product.  
14
- 15 16. The process of claim 15 wherein the hydroisomerization catalyst  
16 comprises an intermediate pore size SAPO and at least one  
17 hydrogenation component comprising an active metal having  
18 hydrogenation activity.  
19
- 20 17. The process of claim 16 wherein the hydroisomerization catalyst  
21 comprises at least one SAPO selected from the group consisting of  
22 SAPO-11, SAPO-31, and SAPO-41.  
23
- 24 18. The process of claim 17 wherein the hydroisomerization catalyst  
25 comprises SAPO-11.  
26
- 27 19. The process of claim 16 wherein at least one of the active metal is  
28 selected from the group consisting of platinum and palladium.  
29
- 30 20. The process of claim 19 wherein at least one of the active metal is  
31 platinum.  
32
- 33 21. The process of claim 16 wherein the active metal is added to the  
34 hydroisomerization catalyst by non-aqueous addition.

- 1
- 2 22. The process of claim 15 wherein the hydrofinishing conditions of step
- 3 (c) comprise a pressure of between about 200 psig to about 3000 psig.
- 4
- 5 23. The process of claim 22 wherein the hydrofinishing conditions
- 6 comprise a pressure of between about 500 psig and about 2000 psig.
- 7
- 8 24. The process of claim 16 wherein the cut-point for the separation of the
- 9 low pour point diesel product from the lubricating base oil product is
- 10 pre-selected to maximize the yield of the low pour point diesel product.
- 11
- 12 25. A process for producing ultra high VI, low pour point lubricating base oil
- 13 product from a Fischer-Tropsch plant which comprises:
- 14
- 15 (a) recovering a feedstock comprising C<sub>5</sub> plus syncrude from a
- 16 Fischer-Tropsch plant;
- 17 (b) dewaxing the C<sub>5</sub> plus syncrude feedstock in a catalytic
- 18 hydrodewaxing zone by contacting the C<sub>5</sub> plus hydrocarbon
- 19 feedstock with hydroisomerization dewaxing catalyst comprising
- 20 an intermediate pore size zeolite and at least one metal having
- 21 hydrogenation activity, said dewaxing being carried out under
- 22 hydrodewaxing conditions selected to produce an C<sub>5</sub> plus
- 23 intermediate having a lowered pour point relative to the C<sub>5</sub> plus
- 24 syncrude feedstock;
- 25 (c) hydrofinishing the C<sub>5</sub> plus intermediate in a hydrofinishing zone
- 26 under hydrofinishing conditions, whereby a UV stabilized C<sub>5</sub> plus
- 27 product is produced; and
- 28 (d) separately collecting from the UV stabilized C<sub>5</sub> plus product an
- 29 ultra high VI, low pour point lubricating base oil product.
- 30
- 31 26. The process of claim 25 wherein the intermediate pore size zeolite is
- 32 also characterized by having one-dimensional pores one-dimensional
- 33 pores.
- 34

20200220 100659Z

- 1 27. The process of claim 25 wherein the intermediate pore size zeolite  
2 having one dimensional pores comprises at least one zeolite selected  
3 from the group consisting of SSZ-32, ZSM-22, and ZSM-23.  
4
- 5 28. The process of claim 25 wherein at least one of the active metal is  
6 selected from the group consisting of platinum and palladium.  
7
- 8 29. The process of claim 28 wherein at least one of the active metal is  
9 platinum.  
10
- 11 30. The process of claim 25 wherein the hydrofinishing conditions of step  
12 (c) comprise a pressure of between about 200 psig to about 3000 psig.  
13
- 14 31. The process of claim 30 wherein the hydrofinishing conditions  
15 comprise a pressure of between about 500 psig and about 2000 psig.